

Application No.: 09/316549

Docket No.: PAS-093RCE

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) In a computer-aided design (CAD) system, a method, comprising the computer-implemented steps of:

providing a feature-based model of an object;

providing an analysis for acting on at least a portion of the model;

creating at least one feature in the model that contains the analysis, said feature containing the analysis updating automatically without user intervention following a re-computation of the analysis initiated by a change in the model of the object; and

adding the feature to the model of the object.

2. (Original) The method of claim 1 wherein the analysis is an engineering analysis.

3. (Previously Presented) The method of claim 1 further comprising the step of performing the analysis on the model to yield results.

4. (Original) The method of claim 3 wherein the results of the analysis comprise graphical information.

5. (Original) The method of claim 3 further comprising the steps of displaying the results of the analysis.

6. (Original) The method of claim 1 wherein the analysis is provided by the CAD system.

7. (Currently Amended) The method of claim 1, comprising the further steps of:

performing the analysis using an external program other than the CAD system, said analysis occurring prior to the creation of a feature ~~incorporating~~ adding the analysis.

8. (Original) The method of claim 1 wherein a user of the CAD system defines and provides the analysis.

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9. (Previously Presented) In a computer-aided design (CAD) system having a feature-based model of an object, a method comprising the computer-implemented steps of:
- performing an analysis on the model to yield results;
 - creating an analysis feature in said model based on the analysis and the results;
 - modifying the model so that when the analysis is performed again on the model new results are yielded; and
 - automatically updating the analysis feature based on the new results.
10. (Original) The method of claim 9 wherein the analysis is an engineering analysis.
11. (Original) The method of claim 9 wherein the analysis feature creates output and wherein at least some of the output of the analysis feature is changed in the automatic updating.
12. (Original) A computer-aided design (CAD) system, comprising:
- an analysis for application to at least a portion of a feature-based model of an object to yield results; and
 - a feature generator for generating features for the feature-based model, including at least one feature that contains the analysis.
13. (Original) The CAD system of claim 12 wherein the feature generator generates at least one feature capturing the results from the analysis.
14. (Currently Amended) In a computer system, a method comprising the computer-implemented steps of:
- providing a parametric feature-based model of an object;
 - incorporating an analysis that is applied to the parametric feature-based model to produce results into a feature of the parametric feature-based model, said feature containing the analysis updating automatically without user intervention following a re-computation of the analysis initiated by a change in the model of the object;
 - applying the analysis to the parametric feature-based model to produce results;
 - based on the analysis and the results, determining whether the parametric feature-based model satisfies a requirement; and

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based on this determination, performing an action.

15. (Cancelled)

16. (Original) The method of claim 14 wherein the computer system includes a computer-aided design (CAD) package that provides the parametric feature-based model.

17. (Original) The method of claim 16 wherein the analysis is user-defined by a user of the computer system.

18. (Previously Presented) The method of claim 16, comprising the further steps of:
comprising the further steps of:

performing the analysis using an external program other than the CAD package, said analysis occurring prior to said incorporating of the analysis into a feature of the parametric feature-based model.

19. (Currently Amended) In a computer-aided design (CAD) system that has a parametric feature-based model of an object, a method comprising the steps of:

providing an analysis that is applied to the parametric feature-based model wherein the analysis produces results based on at least one set of values for a selected set of parameters of the model;

applying the analysis to the model multiple times to produce results, each time with different sets of values for the selected set of parameters; and

choosing at least one of the set of values for the selected sets of parameters based on the results from applying the analysis to the model multiple times, said analysis incorporated into a feature of the parametric feature-based model, said feature containing the analysis updating automatically without user intervention following a re-computation of the analysis initiated by a change in the model of the object.

20. (Cancelled).

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21. (Original) The method of claim 19 wherein the values of the selected set of parameters that produces an optimal result are chosen.

22. (Original) The method of claim 19 wherein at least one of the sets of values of the selected parameters that produce results that satisfy a requirement are chosen.

23. (Currently Amended) In a computer-aided design (CAD) system having a feature-based model of an object, a computer-readable medium holding computer-executable instructions for performing, a method, comprising the computer-implemented steps of:

- providing a feature-based model of an object;
- performing an analysis for acting on at least a portion of the model;
- creating at least one selected feature based on the analysis, said feature containing the analysis updating automatically without user intervention following a re-computation of the analysis initiated by a change in the model of the object; ; and
- adding the selected feature to the model of the object.

24. (Original) The computer-readable medium of claim 23 wherein the analysis is an engineering analysis.

25. (Original) The computer-readable medium of claim 23 wherein the method further comprises the steps of performing the analysis on the model to yield results.

26. (Original) The computer-readable medium of claim 25 wherein the results of the analysis comprise graphical information.

27. (Previously Presented) In a computer-aided design (CAD) system having a feature-based model of an object, a computer-readable medium holding computer executable instructions for performing a method, comprising the computer-implemented steps of:

- performing an analysis on the model to yield results;
- creating an analysis feature in the model based on the analysis and the results;
- modifying the model so that when the analysis is performed again on the model new results are yielded; and

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automatically updating the analysis feature based on the new results.

28. (Original) The computer-readable medium of claim 27 wherein the analysis is an engineering analysis.

29. (Original) The computer-readable medium of claim 27 wherein the analysis feature creates output and wherein at least one of the outputs of the analysis feature is changed in the automatic updating.

30. (Original) In a computer system having a feature-based model of an object, a computer-readable medium holding computer-executable instructions for performing a method, comprising the computer-implemented steps of:

- performing an analysis on at least a portion of the model to yield results;
- representing the results as one or more selected features in the model; and
- creating at least one new feature that references at least one of the selected features.

31. (Currently Amended) In a computer system having a feature-based model of an object having parameters, a computer-readable medium holding computer-executable instructions for performing a method, comprising the computer-implemented steps of:

- performing an analysis on at least a portion of the model wherein the analysis produces results based on a set of values for a selected set of parameters of the model, said analysis incorporated as a feature in said model, the feature containing the analysis updating automatically without user intervention following a re-computation of the analysis initiated by a change in the model of the object;

- applying the analysis to the model multiple times to produce results, each time with a different set of values for the selected parameters;

- choosing the values for the selected set of parameters for which the results from applying the analysis are optimal; and

- creating at least one new feature in the model that references the optimal results of the analysis.

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32-33. (Cancelled).